2ND GRADE MATHEMATICS CURRICULUM MAP 2007-08

UNITS OF STUDY	STANDARDS, BENCHMARKS, GLCEs OR HSCEs	BIG IDEAS / KEY CONCEPTS	ASSESSMENTS FOR LEARNING *(Formative)*	ASSESSMENTS OF LEARNING *(Summative)*	LEARNING STRATEGIES *Skills*	CONTENT ACTIVITIES *Knowledge*	VOCABULARY	INSTRUCTIONAL RESOURCES
September - November	**GRAPHING**							
Create, Interpret, and Solve Problems involving Pictographs *Pacing: 10 days*	D.RE.02.01 Make pictographs using a scale representation, using scales where symbols equal more than one.	Pictographs	Individual Student Work	Unit Assessment End-of-Year Assessment	Practice counting symbols on a pictograph	Create graphs where the key symbol is equal to more than 1	Pattern Tally Marks More Likely Equal	**Scott Foresman Textbook** Chapters 1 – 6 **Investigations:** Mathematical Thinking Inv. 4 & 5
	D.RE.02.02 Read and interpret pictographs with scales, using scale factors of 2 and 3.	Interpreting Pictographs	Individual Student Work	Unit Assessment End-of-Year Assessment	Read scales on pictographs	Recognize and read graphs using scale factors o 2 and 3 units	Columns Rows Table	Supplemental materials needed
	D.RE.02.03 Solve problems using information in pictographs, include scales such as each ● represents 2 apples; avoid half cases.	Using Information in Pictographs	Individual Student Work	Unit Assessment End-of-Year Assessment	Demonstrate ability to interpret the information on pictographs	Solve word problems using information from the picotgraph	Scale	**Scott Foresman Textbook** Chapters 1 – 6
Use Coordinate Systems *Pacing: 5 days*	G.LO.02.07 Find and name locations using simple coordinate systems such as maps and first quadrant grids.	Coordinate Systems	Individual Student Work	Unit Assessment End-of-Year Assessment	Identify coordinates on a simple grid system	Ability to name coordinates on a grid or map	Coordinate Grid Quadrants	**Scott Foresman Textbook** Chapters 8 – 12 **Investigations:** How Far, How Long Inv. 2, 6, 7, 8 Sunken Ships Software Inv. 4 Battleship Game Maps as Resources
	MEASUREMENT							
Measure, Add, and Subtract Length *Pacing: 25 days*	M.UN.02.01 Measure lengths in meters, centimeters, inches, feet, and yards approximating to the nearest whole unit and using abbreviations; cm, m, in, ft, yd.	Length Measurements	Individual Student Work	Unit Assessment End-of-Year Assessment	Compare the effects of measurements using units of different sizes	Measure the classroom using different measurements	Length Meters Centimeters Inches Feet Yards	**Scott Foresman Textbook** Chapter 11 Pages: 403 – 410 **Investigations:** How Long, How Far? Inv. 1 – 3 From Paces to Feet (Gr. 3)

	M.PS.02.02 Compare lengths; add and subtract lengths (no conversion of units).	Comparing Lengths	Individual Student Work	Unit Assessment End-of-Year Assessment	Use direct and indirect comparisons of different lengths	How far can you jump? Ability to add and subtract different lengths	Length Meters Centimeters Inches Feet Yards	**Investigations:** How Long, How Far? Inv. 1 & 2
Tell Time and Solve Time Problems	M.UN.02.05 Using A.M. and P.M., tell and write time from the clock face in 5 minute intervals and from digital clocks to the minute; include reading time: 9:15 as nine-fifteen and 9:50 as nine-fifty. Interpret time both as minutes after the hour and minutes before the next hour, e.g., 8:50 as eight-fifty and ten to nine. Show times by drawing hands on clock face.	Interpreting Time	Individual Student Work	Unit Assessment End-of-Year Assessment	Discuss intervals of time; 5 minutes, 15 minutes Identify minutes and hours Practice reading time	Recognize and understand AM and PM Read time from both analog and digital clocks Tell time before the hour and after the hour Draw correct times on clock faces	Hour Minute Half Hour Before After	**Scott Forseman Textbook** Chapter 7 Lessons 2, 3, 6, 8 **Investigations:** Timelines, Rhythms, and Patterns Inv. 1 Math Blaster Compass Learning
	M.UN.02.06 Use the concept of duration of time, e.g., determine what time it will be half an hour from 10:15.	Time Durations	Individual Student Work	Unit Assessment End-of-Year Assessment	Use class clocks	Describe and indicate how much time has passed	Elapsed	**Scott Forseman Textbook** Chapter 7 Lessons 2, 3, 6, 8 Math Blaster Compass Learning
Read Thermometers	M.UN.02.09 Read temperature using the scale on a thermometer in degrees Fahrenheit.	Temperature Readings	Individual Student Work	Unit Assessment End-of-Year Assessment	Practice reading thermometers Distinguish between Fahrenheit and Celsius	Accurate read a thermometer Interpret the reading / temperature on the thermometer Know difference between Fahrenheit and Celsius	Temperature Thermometer Fahrenheit Celsius Scale	Supplemental material needed
November - January	**GEOMETRY**							
Identify and Describe Shapes *Pacing: 30 days*	G.GS.02.01 Identify, describe, and compare familiar two-dimensional and three-dimensional shapes, such as triangles, rectangles, squares, circles, semi-circles, spheres, and rectangular prisms.	Two-dimensional Shapes and Three-dimensional Figures	Individual Student Work	Unit Assessment End-of-Year Assessment	Develop practice situations to draw and construct two-dimensional and three-dimensional shapes	Recognize and compare two-dimensional and three-dimensional shapes	Triangle Rectangle Square Circle/Semi-circle Rectangular Prism	**Scott Foresman Textbook** Chapter 12 Lessons 1 & 2 **Investigations:** Shapes, Halves, and Symmetry Inv. 1 Sessions 1 – 3 Pentathlon (K-1) Hex And (2-3) Par 55
	G.GS.02.02 Explore and predict the results of putting together and taking apart two-dimensional and three-dimensional shapes.	Construction of Two-dimensional Shapes and Three-dimensional Figures	Individual Student Work	Unit Assessment End-of-Year Assessment	Practice visualizing geometric shapes based on familiar two-dimensional and three-dimensional shapes	Recognize and identify different shapes	Pyramid Cube Cone Cylinder Sphere	**Scott Foresman Textbook** Chapter 12 Lesson 3 **Investigations:** Shapes, Halves, and Symmetry Inv. 2 Exploring Solids Inv. 3 & 4 Guess My Shape Software

	G.GS.02.04 Distinguish between curves and straight lines and between curved surfaces and flat surfaces.	Lines	Individual Student Work	Unit Assessment End-of-Year Assessment	List and identify objects that have straight and curved lines and surfaces	Name objects with straight and curved lines and surfaces	Faces Edges Corners/Vertex Curve	Supplemental material needed
	G.SR.02.05 Classify familiar plane and solid objects, e.g., square, rectangle, rhombus, cube, pyramid, prism, cone, cylinder, and sphere, by common attributes such as shape, size, color, roundness, or number of corners and explain which attributes are being used for classification.	Classification of Shapes and Figures	Individual Student Work	Unit Assessment End-of-Year Assessment	Name plane and solid objects Display pictures of plane and solid objects Practice creating / drawing plane and solid objects	Draw plane and solid objects accurately	Solids	**Investigations:** Shapes, Halves, and Symmetry Inv. 1 Sessions 4 – 5 Inv. 2 Session 1 Exploring Solids Inv. 1 & 2 Mathematical Thinking Inv. 3 Sessions 1 – 5
	G.TR.02.06 Recognize that shapes that have been slid, turned, or flipped are the same shape, e.g., a square rotated 45° is still a square.	Reflections and Rotations	Individual Student Work	Unit Assessment End-of-Year Assessment	Explain with examples that object remain the same even when they are flipped, slide, or rotated	Identify objects once they have been transformed as a flip, slide, or rotation	Rotation Flip Slide Line of Symmetry	**Scott Foresman Textbook** Chapter 12 Lesson 5 **Investigations:** Shapes, Halves, and Symmetry Inv. 1 Sessions 2 & 3 Tumbling Tetr. Software
Understand the Concept of Area *Pacing: 10 days*	M.UN.02.03 Measure area using non-standard units to the nearest whole unit.	Area Measurements	Individual Student Work	Unit Assessment End-of-Year Assessment	Explain and work with arrays	Ability to measure objects using non-standard measurements for area	Square Unit	**Scott Foresman Textbook** Chapter 11 Lesson 6 **Investigations:** Shapes, Halves, and Symmetry Inv. 2 Sessions 2 – 6 Flips, Turns, and Area Inv. 1
	M.TE.02.04 Find the area of a rectangle with whole number side lengths by covering with unit squares and counting, or by using a grid of unit squares; write the area as a product.	Measuring Area with Unit Squares	Individual Student Work	Unit Assessment End-of-Year Assessment	Introduce measurements of area using units of square inch, square centimeter, square foot, and square meter	Write dimensions as multiplication equations Find area of rectangles using a grid or manipulative	Square Inch Square Foot Square Centimeter Square Meter Dimensions	**Investigations:** Shapes, Halves, and Symmetry Inv. 2 Sessions 2 – 6 Flips, Turns, and Area Inv. 2 Things That Come in Groups Inv. 3 Sessions 1 –5 Pentathlon Juggle Tiles / Graph Paper
	M.TE.02.11 Determine perimeters of rectangles and triangles by adding lengths of sides, recognizing the meaning of perimeter.	Perimeters of Two-dimensional Shapes	Individual Student Work	Unit Assessment End-of-Year Assessment	Measure perimeter using grid paper, tiles, and dot paper	Know meaning of perimeter Determine or count perimeters of rectangles and triangles	Perimeter	**Scott Foresman Textbook** Chapter 11 Lesson 5 **Investigations:** Shapes, Halves, and Symmetry Inv. 1 Sessions 6 – 8 Compass Learning

Work with Unit Fractions *Pacing: 15 days*	N.ME.02.18 Recognize, name, and represent commonly used unit fractions with denominators 12 or less; model ½, 1/3, and ¼ by folding strips.	Fractions	Individual Student Work	Unit Assessment End-of-Year Assessment	Construct unit fractions using graph paper, Unifix Cubes, Snap Cubes, construction paper, and Compass Learning	Ability to identify unit fractions by determining equal parts Identify equal and unequal fractions	Halves Thirds Fourths	**Scott Foresman Textbook** Chapter 12 Lessons 8 & 9 **Investigations:** Shapes, Halves, and Symmetry Inv. 2 Sessions 1 & 2 Inv. 3 Sessions 1 – 8 Fair Shares Inv. 3 Sessions 1 & 2 Compass Learning
	N.ME.02.19 Recognize, name, and write commonly used fractions: ½, 1/3, 2/3, ¼, 2/4, ¾.	Name and Write Fractions	Individual Student Work	Unit Assessment End-of-Year Assessment	Utilize Compass Learning during instructional time Display fractions using paper plates and paper Identify part and whole of fractions	Knowledge of fractions Determine equal parts, and colored parts of the fractions Name common fractions	Part Whole Half Third Quarter Three-fourths	**Scott Foresman Textbook** Chapter 12 Lesson 10 **Investigations:** Shapes, Halves, and Symmetry Inv. 2 Sessions 1 & 2 Inv. 3 Sessions 1 – 8 Fair Shares Inv. 3 Sessions 1 & 2 Compass Learning
	N.ME.02.20 Place 0 and halves, e.g., ½, 1 ½, 2 ½, one the number line; relate to a ruler.	Fractions on the Number Line	Individual Student Work	Unit Assessment End-of-Year Assessment	Create number line for placement of fractions	Ability to place fractions on a given number line	Benchmark Fractions	Supplemental material needed
	N.ME.02.21 For unit fractions from 1/12 to ½ understand the inverse relationship between the size of a unit fraction and the size of the denominator; compare unit fractions from 1/12 to ½.	Unit Fractions	Individual Student Work	Unit Assessment End-of-Year Assessment	Demonstrate with Unifix Cubes, counters, and Compass Learning	Describe fractions of a set Identify and write fractions of a set	Denominator Numerator Inverse Relationship	**Scott Foresman Textbook** Chapter 12 Lesson 12 & 13 **Investigations:** Shapes, Halves, and Symmetry Inv. 3 Sessions 1 – 8 Fair Shares Inv. 3 Sessions 1 & 2 Compass Learning Pentathlon FAB
	N.ME.02.22 Recognize that fractions such as 2/2, 3/3, and 4/4 are equal to the whole (one).	Fraction Wholes Or Identity of One	Individual Student Work	Unit Assessment End-of-Year Assessment	Show that the parts of a fraction (numerator) are the same as the whole of the fraction (denominator), therefore the fraction is equal to one (Identity of One)	Understand different ways to name a whole using fractions	Part Whole Numerator Denominator Identity of One	Supplemental material needed

January - March	**NUMBERS AND OPERATIONS**							
Count, Write, and Order Whole Numbers *Pacing: 5 days*	N.ME.02.01 Count to 1000 by 1's, 10's and 100's starting from any number in the sequence.	Counting	Individual Student Work	Unit Assessment End-of-Year Assessment	Use groupings to count to 1,000 Project: What does 100, 1,000 look like? Daily practice with 100 Chart Investigations and discovery with Unifix Cubes, Snap Cubes, dot paper, and number lines	Verbal counting to 1,000 by 1's, 10's, and 100's from any number as the start	After Before Between Fewer More	**Scott Foresman Textbook** Chapter 1 Lessons 1 – 3 Chapter 5 Lessons 1, 4, 7, 9 **Investigations:** Coins, Coupons, and Combinations Inv. 4 Sessions All Compass Learning
	N.ME.02.02 Read and write numbers to 1000 in numerals and words, and relate them to the quantities they represent.	Read and Write Numbers	Individual Student Work	Unit Assessment End-of-Year Assessment	Read numbers as words to 100 and 1,000 Use 100 Chart for instruction	Represent numbers on a number line	Less Than Greater Than Least Greatest	**Scott Foresman Textbook** Chapter 5 Lessons 2, 3, 4, 9 Chapter 10 Lessons 1 & 3 **Investigations:** Count and Compare (3 Gr.) Inv. 4 Sessions All
	N.ME.02.03 Compare and order numbers to 1000; use the symbol > and <.	Compare and Order Numbers	Individual Student Work	Unit Assessment End-of-Year Assessment	Compare numbers using greater than, less than, greatest, and least	Knowledge of comparing and ordering number to 1,000 Use symbols to show number comparisons as greater than or less than	Less Than Greater Than Least Greatest	**Scott Foresman Textbook** Chapter 5 Lessons 9 & 10 Chapter 10 Lessons 5 – 7 **Investigations:** Count and Compare (3 Gr.) Inv. 2 Sessions All
Understand Place Value *Pacing: 5 days*	N.ME.02.05 Express numbers through 999 using place value, e.g., 137 is 1 hundred, 3 tens, and 7 ones; use concrete materials.	Place Value	Individual Student Work	Unit Assessment End-of-Year Assessment	Visualize a place value on a chart and number line, and identify the digits values	Identify a digit with its place value name	Place Value Ones Tens Hundreds	**Scott Foresman Textbook** Chapter 5 Lessons 2 & 4 Chapter 8 Chapter 10 Lessons 1 – 3 **Investigations:** Mathematical Thinking Inv. 3, 4, 5 Coins, Coupons, and Combinations Inv. 4 Putting It All Together Inv. 2, 4, 5
Add and Subtract Whole Numbers *Pacing: 35 days*	N.FL.02.06 Decompose 100 into addition pairs, e.g., 99 + 1, 98 + 2…	Addition Pairs	Individual Student Work	Unit Assessment End-of-Year Assessment	Solve problems using numerical reasoning	Ability to break down numbers into addition pairs	Addend Sum Subtrahend Difference	**Investigations:** Putting Together and Taking Apart Inv. 1 & 2

	N.MR.02.07 Find the distance between numbers on the number line, e.g., how far is 79 from 26?	Distance between Numbers	Individual Student Work	Unit Assessment End-of-Year Assessment	Correlate and practice visualizing a number line with numerical differences	Use a number to find numbers and demonstrate counting Answer questions such as "how far is 79 from 26?"	Number Line	**Scott Foresman Textbook** Chapter 8 Pages: 271 – 272 Chapter 9 Pages: 315 - 316
	N.MR.02.08 Find missing values in open sentences, e.g., 42 + __ = 57; use relationships between addition and subtraction.	Missing Values in Addition and Subtraction Sentences	Individual Student Work	Unit Assessment End-of-Year Assessment	Incorporate strategies for cover-up Compare solution strategies	Find missing values using cover-up Identify calendar and today's number	Addend Sum Subtrahend Difference	**Investigations:** Putting Together and Taking Apart Inv. 3
	N.MR.02.09 Given a contextual situation that involves addition and subtraction using numbers through 99; model using objects or pictures; explain in words; record using numbers and symbols; solve.	Addition and Subtraction Models	Individual Student Work	Unit Assessment End-of-Year Assessment	Add strings of numbers by chunking or grouping numbers together	Show different ways to make 100 Use models / objects to display 100	Addend Sum Subtrahend Difference	**Investigations:** Putting Together and Taking Apart Inv. 4
	N.FL.02.10 Add fluently two numbers through 99, using strategies including formal algorithms; subtract fluently two numbers through 99.	Addition and Subtraction	Individual Student Work	Unit Assessment End-of-Year Assessment	Work with 100 and combinations of numbers to 100 Apply chunking or grouping to solve	Ability to add two numbers up to two-digits each up to 99	Add Sum Subtract Difference	**Scott Foresman Textbook** Chapter 8 Chapter 9 **Investigations:** Putting Together and Taking Apart Inv. 4 Sessions All
	N.FL.02.11 Estimate the sum of two numbers with three digits.	Estimation	Individual Student Work	Unit Assessment End-of-Year Assessment	Demonstrate strategies for how to estimate Calculate and show distance between numbers on a number line	Estimate sums of two numbers with up to three-digits each	Estimate Sum	**Scott Foresman Textbook** Chapter 10 Pages: 375 - 376 **Investigations:** Putting Together and Taking Apart Inv. 5
	N.FL.02.12 Calculate mentally sums and differences involving three-digit numbers and one; three-digit numbers and tens; three-digit numbers and hundreds.	Calculations	Individual Student Work	Unit Assessment End-of-Year Assessment	Emphasize patterns by adding zeros to numbers	Mentally calculate sums and differences using ones, tens, hundreds, and know place value	Sums Differences	**Scott Foresman Textbook** Chapter 10 Pages: 373 - 374

Record, Add and Subtract Money	M.UN.02.07 Read and write amounts of money using decimal notations, e.g., $1.15.	Amounts of Money	Individual Student Work	Unit Assessment End-of-Year Assessment	Identify coins and their values	Use coins to record amounts of monies as totals	Penny Nickel Dime Cent	**Scott Foresman Textbook** Chapter 6 Chapter 8 Lesson 11 Chapter 9 Lesson 12 **Investigations:** Mathematical Thinking Inv. 4
	M.PS.02.08 Add and subtract money in mixed units, e.g., $2.50 + 60 cents and $5.75 - $3.00, but not $2.50 + $3.10.	Add and Subtract Money	Individual Student Work	Unit Assessment End-of-Year Assessment	Practice skip counting and grouping Recognize coin equivalences	Show ability to add and subtract money mixing units, e.g., $12.50 + $0.60	Dollars Cents	**Scott Foresman Textbook** Chapter 6 **Investigations:** Coins, Coupons, and Combinations Inv. 2 Sessions 7 – 9
Solve Measurement Problems	M.PS.02.10 Solve simple word problems involving length and money.	Word Problems	Individual Student Work	Unit Assessment End-of-Year Assessment	Provide verbal and written story problems to solve for length and money	Develop story problems for determining length measurements and money amounts Solve story problems for length and money	Inch Foot Yard Mile Centimeter Meter Kilometer Dollars Cents	**Scott Foresman Textbook** Chapter 11 **Investigations:** How Long, How Far Inv. 2 Sessions 6 – 8
March - June	**NUMBERS AND OPERATIONS**							
Understand Meaning of Multiplication and Division *Pacing: 40 days*	N.ME.02.04 Count orally by 3's and 4's starting with 0, and by 2's, 5's, and 10's starting from any whole number.	Verbal Counting	Individual Student Work	Unit Assessment End-of-Year Assessment	Development of speaking/counting numbers aloud Use of 100 Chart and number line as a visual representation	Ability to count verbally by 3's and 4's starting with zero Ability to count verbally by 2's, 5's, and 10's starting from any whole number	2's 3's 4's 5's 10's	**Scott Foresman Textbook** Chapter 5 Lesson 6 **Investigations:** Things That Come in Groups Inv. 2 Sessions All Coins, Coupons, and Combinations Inv.2 Sessions 4 & 5
	N.MR.02.13 Understand multiplication as the result of counting the total number of objects in a set of equal groups, e.g., 3 x 5 gives the number of objects in 3 groups of 5 objects, or 3 x 5 = 5 + 5 + 5 = 15.	Multiplication	Individual Student Work	Unit Assessment End-of-Year Assessment	Draw multiplication equations using grouping Write multiplication equations as repeated addition	List objects that come in groups, draw pictures showing groups, write multiplication as repeated addition	Product Multiple Multiply Quotient Divide Division	**Scott Foresman Textbook** Chapter 13 Lessons 2, 4, 6, 7 **Investigations:** Things That Come in Groups Inv. 1 Sessions All Coins, Coupons, and Combinations Inv. 2 Sessions 1 – 3 Versa Tiles / Interlocking Cubes

	N.MR.02.14 Represent multiplication using area and array models.	Array Models of Multiplication	Individual Student Work	Unit Assessment End-of-Year Assessment	Practice and demonstrate area and arrays to show multiplication equations	Create arrays to illustrate a given multiplication fact	Arrays	**Scott Foresman Textbook** Chapter 13 Lessons 3 & 4 **Investigations:** Things That Come in Groups Inv. 3 Sessions All Shapes, Halves, and Symmetry Inv. 2 Sessions 2 – 6 Array Cards
	N.MR.02.15 Understand division (x) as another way of expressing multiplication, using fact families within the 5 x 5 multiplication table; emphasize that division "undoes" multiplication, e.g., 2 x 3 = 6 can be rewritten as 6 / 2 = 3 or 6 / 3 = 2.	Fact Families of Multiplication and Division	Individual Student Work	Unit Assessment End-of-Year Assessment	Show fact families of multiplication and division	Write story problems to depict multiplication or division	Reciprocal Inverse	**Scott Foresman Textbook** Chapter 7 Lessons 1 – 4 Chapter 13 Lesson 8 **Investigations:** Things That Come in Groups Inv. 4 Sessions 1 & 2 Shapes, Halves, and Symmetry Inv. 1 Sessions 6 – 8 Inv. 2 Sessions All Each Orange Has Eight Slices By Donald Crews
	N.MR.02.16 Given a situation involving groups of equal size or of sharing equally, represent with objects, words, and symbols; solve.	Modeling Mathematical Situations	Individual Student Work	Unit Assessment End-of-Year Assessment	Solve and interpret word problems	Solve multiplication and division word problems using models	Equal Sizes Sharing	**Scott Foresman Textbook** Chapter 13 Lesson 9 **Investigations:** Things That Come in Groups Inv. 4 Sessions 3 & 4 Interlocking Cubes
	N.MR.02.17 Develop strategies for fluently multiplying numbers up to 5 x 5.	Multiplication Strategies	Individual Student Work	Unit Assessment End-of-Year Assessment	Identify and emphasize strategies for multiplicaiton	Show retention of multiplication facts	Strategy	Scott Foresman Textbook Chapter 5 Lessons 4 – 7 Chapter 6 Lessons 1 & 2 Investigations: Things That Come in Groups Inv. 2 Sessions All Versa Tiles Math Blaster Mad Math Minute